

VIDEO FRAME RENDERING ENGINE

ABSTRACT

5 A circuit is provided which contains memory, logic,
arithmetic and control circuitry needed to generate all or
part of a frame for use in video processing and animation as
well as digital signal and image processing. One or more such
circuits are provided on an integrated circuit. A video or
10 image frame generation system is constructed from one or more
of these integrated circuits, optionally with additional
memory circuitry, to provide exceptional performance in frame
production for animation, particularly 3-D and other high
performance applications such as medical imaging, virtual
15 reality and real-time scene generation in video games and
simulation environments. The circuit(s) are used to process
high speed object-oriented graphics related streams such as
proposed by MPEG 4, as well as act as a single chip JAVA
20 engine with highly optimized numeric performance.